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PLAY BACK APPARATUS

[FIG. 1]

- 1: OPERATION SECTION
- 2: CONTROL SECTION
- 3: BUFFER MEMORY
- 4: COMPRESSION DECODER
- 5: DATA EXTRACTION CIRCUIT
- 6: RAM
- 7: DATA CORRECTION CIRCUIT
- 8: SWITCHING SW
- 9: D/A
- 10: AMP
- 11: SP
- 12: ADDRESS CONTROL SIGNAL GENERATOR
- M: SOLID STATE MEMORY
- A: COMPRESSION BIT STREAM DATA
- B: PCM AUDIO DATA (16 BITS)
- C: SPECIAL AUDIO DATA (16 BITS)
- D: BIT NUMBER CONVERSION DATA (8 BITS)
- E: TEMPORARILY STORED DATA (8 BITS)
- F: OUTPUT DATA (8 BITS)
- G: ANALOG AUDIO SIGNAL

Filed: April 11, 2001
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PLAY BACK APPARATUS

[FIG. 2]

- 21: BIT STREAM ANALYZER
- 22: MDCT COEFFICIENT INVERSE QUANTIZATION
- 23: GAIN DECODE
- 24: SPECTRUM ENVELOPE PLAY BACK
- 25: INVERSE MDCT
- 26: MDCT COEFFICIENT INVERSE NORMALIZATION
- A: COMPRESSION BIT STREAM DATA INPUT
- B: MDCT COEFFICIENT QUANTIZATION INDEX
- C: GAIN QUANTIZATION INDEX
- D: SPECTRUM ENVELOPE QUANTIZATION PARAMETER
- E: WINDOW INFORMATION
- F: PCM AUDIO DATA OUTPUT

[FIG. 3]

- A: RAM ADDRESS SPACE

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Takehiko SHIODA, et al.
PLAY BACK APPARATUS

[FIG. 4]

- 2: CONTROL SECTION
- 4: COMPRESSION DECODER
- 5: DATA EXTRACTION CIRCUIT
- 6: RAM
- 7: DATA CORRECTION CIRCUIT
- 8: SWITCHING SW
- 12: ADDRESS CONTROL SIGNAL GENERATOR
- A: FROM BUFFER MEMORY 3
- B: PCM AUDIO DATA (16 BITS)
- C: BIT NUMBER CONVERSION DATA (8 BITS)
- D: TEMPORARILY STORED DATA (8 BITS)
- E: SPECIAL AUDIO DATA (16 BITS)
- F: OUTPUT DATA (8 BITS)
- G: TO D/A CONVERTER 9

[FIG. 5]

- A: PCM CLOCK
- B: BIT NUMBER CONVERSION DATA
- C: WE SIGNAL
- D: ADR SIGNAL (AT THE TIME OF DATA WRITING)

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Takehiko SHIODA, et al.
PLAY BACK APPARATUS

[FIG. 6]

- A: PCM CLOCK
- B: ADR SIGNAL (AT THE TIME OF DATA READING)
- C: RE SIGNAL
- D: OUTPUT DATA

[FIG. 7]

- A: PCM CLOCK
- B: ADR SIGNAL (AT THE TIME OF DATA READING)
- C: RE SIGNAL
- D: OUTPUT DATA

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Takehiko SHIODA, et al.
PLAY BACK APPARATUS

[FIG. 8]

- S1: TEMPORARILY STORED DATA EXISTS IN RAM 6 ?
- S2: READ OUT DATA OF FIXED MEMORY AND STORE AND HOLD TEMPORARILY
STORED DATA IN RAM 6
- S3: PLAY BACK COMMAND IS GIVEN ?
- S4: SELECT DATA READING OUT START POSITION
- S5: START DATA PLAY BACK FROM READING OUT START POSITION
- S6: PLAY BACK STOP COMMAND IS GIVEN ?
- S7: FF COMMAND IS GIVEN ?
- S8: REW COMMAND IS GIVEN ?
- S9: DATA IS COMPLETED ?
- A: FROM FF PROCESSING ROUTINE
- B: FROM REW PROCESSING ROUTINE
- C: TO FF PROCESSING ROUTINE
- D: TO REW PROCESSING ROUTINE

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Takehiko SHIODA, et al.
PLAY BACK APPARATUS

[FIG. 9]

- A: FF PROCESSING START
- B: FF PROCESSING END RETURN
- S11: OUTPUT STOP FROM COMPRESSION DECODER 4
- S12: READING OUT OPERATION OF TEMPORARILY STORED DATA OF RAM 6
- S13: SWITCH SWITCHING SW 8 TO OUTPUT SIDE OF DATA CORRECTION CIRCUIT 7
- S14: FF COMMAND IS RELEASED ?
- S15: CALCULATE DATA READING OUT START POSITION X1
- S16: RESTART OF OUTPUT FROM COMPRESSION DECODER 4
- S17: WRITING OPERATION OF TEMPORARILY STORED DATA OF RAM 6
- S18: SWITCH SWITCHING SW 8 TO OUTPUT SIDE OF COMPRESSION DECODER 4

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Takehiko SHIODA, et al.
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[FIG. 10]

- A: REW PROCESSING START
- B: REW PROCESSING END RETURN
- S21: OUTPUT STOP FROM COMPRESSION DECODER 4
- S22: READING OUT OPERATION OF TEMPORARILY STORED DATA OF RAM
6
- S23: SWITCH SWITCHING SW 8 TO OUTPUT SIDE OF DATA CORRECTION CIRCUIT 7
- S24: REW COMMAND IS RELEASED ?
- S25: CALCULATE DATA READING OUT START POSITION X2
- S26: RELEASE STORE AND HOLDING TEMPORARILY STORED DATA OF RAM
6
- S27: RESTART OF OUTPUT FROM COMPRESSION DECODER 4
- S28: SWITCH SWITCHING SW 8 TO OUTPUT SIDE OF COMPRESSION DECODER
4

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Takehiko SHIODA, et al.
PLAY BACK APPARATUS

[FIG. 11]

- 1: OPERATION SECTION
- 3: BUFFER MEMORY
- 4: COMPRESSION DECODER
- 5: DATA EXTRACTION CIRCUIT
- 6: RAM
- 7: DATA CORRECTION CIRCUIT
- 8: SWITCHING SW
- 9: D/A
- 10: AMP
- 11: SP
- 12: ADDRESS CONTROL SIGNAL GENERATOR
- 14: CONTROL SECTION
- M: SOLID STATE MEMORY
- A: COMPRESSION BIT STREAM DATA
- B: PCM AUDIO DATA (16 BITS)
- C: SPECIAL AUDIO DATA (16 BITS)
- D: BIT NUMBER CONVERSION DATA (8 BITS)
- E: TEMPORARILY STORED DATA (8 BITS)
- F: OUTPUT DATA (8 BITS)
- G: ANALOG AUDIO SIGNAL
- H: DEFAULT DATA (8 BITS)

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Takehiko SHIODA, et al,
PLAY BACK APPARATUS

[FIG. 12]

S1: TEMPORARILY STORED DATA EXISTS IN RAM 6 ?

S32: READ OUT DEFAULT DATA OF ROM 13 AND STORE AND HOLD
TEMPORARILY STORED DATA

S3: PLAY BACK COMMAND IS GIVEN ?

S4: SELECT DATA READING OUT START POSITION

S5: START DATA PLAY BACK FROM READING OUT START POSITION

S6: PLAY BACK STOP COMMAND IS GIVEN ?

S7: FF COMMAND IS GIVEN ?

S8: REW COMMAND IS GIVEN ?

S9: DATA IS COMPLETED ?

A: FROM FF PROCESSING ROUTINE

B: FROM REW PROCESSING ROUTINE

C: TO FF PROCESSING ROUTINE

D: TO REW PROCESSING ROUTINE

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[FIG. 13]

- A: FRAME (N - 1)
- B: FRAME (N)
- C: FRAME (N + 1)
- D: HEADER
- E: WINDOW INFORMATION, ETC.
- F: SPECTRUM ENVELOPE/GAIN QUANTIZATION PARAMETER
- G: MDCT COEFFICIENT QUANTIZATION INDEX

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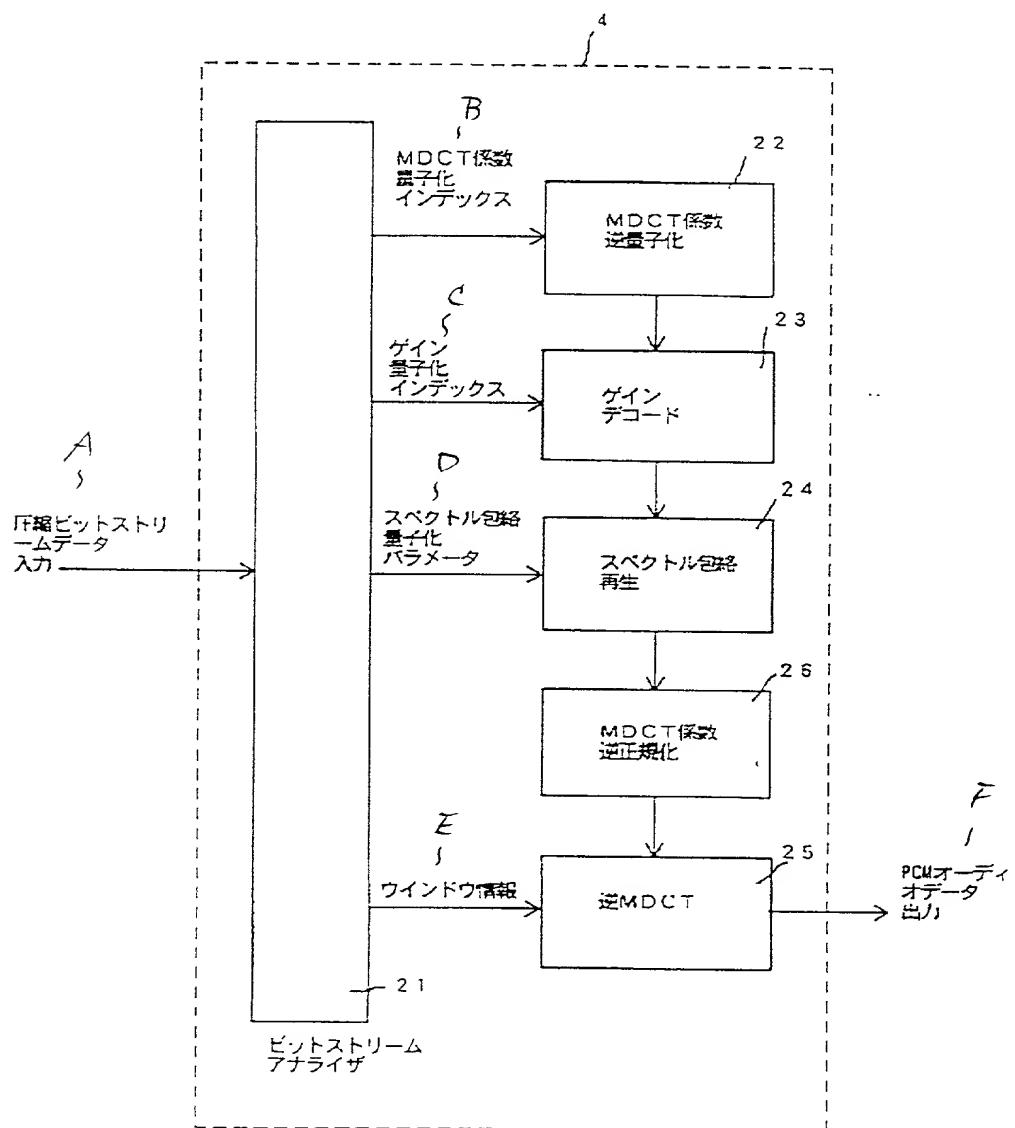
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【図2】
 Fig. 2



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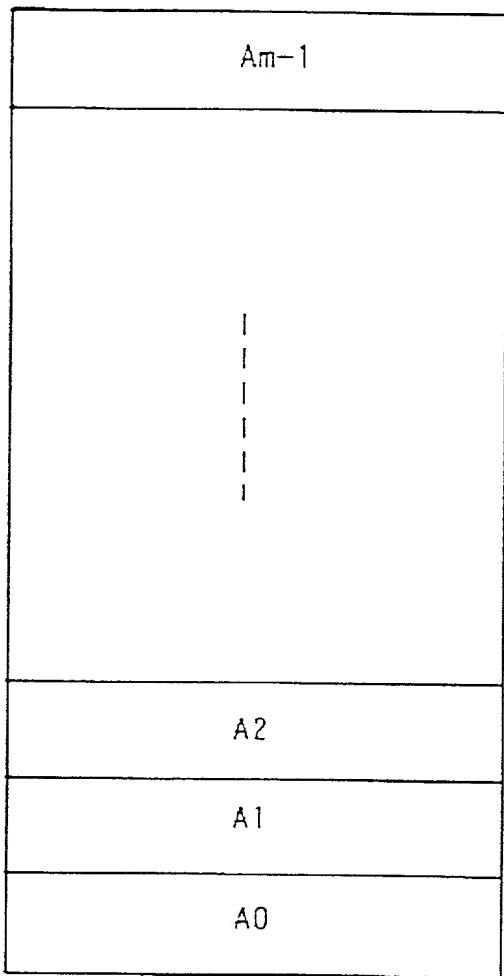
〔図3〕

Fig. 3

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A
S

RAMアドレス空間



[図4]

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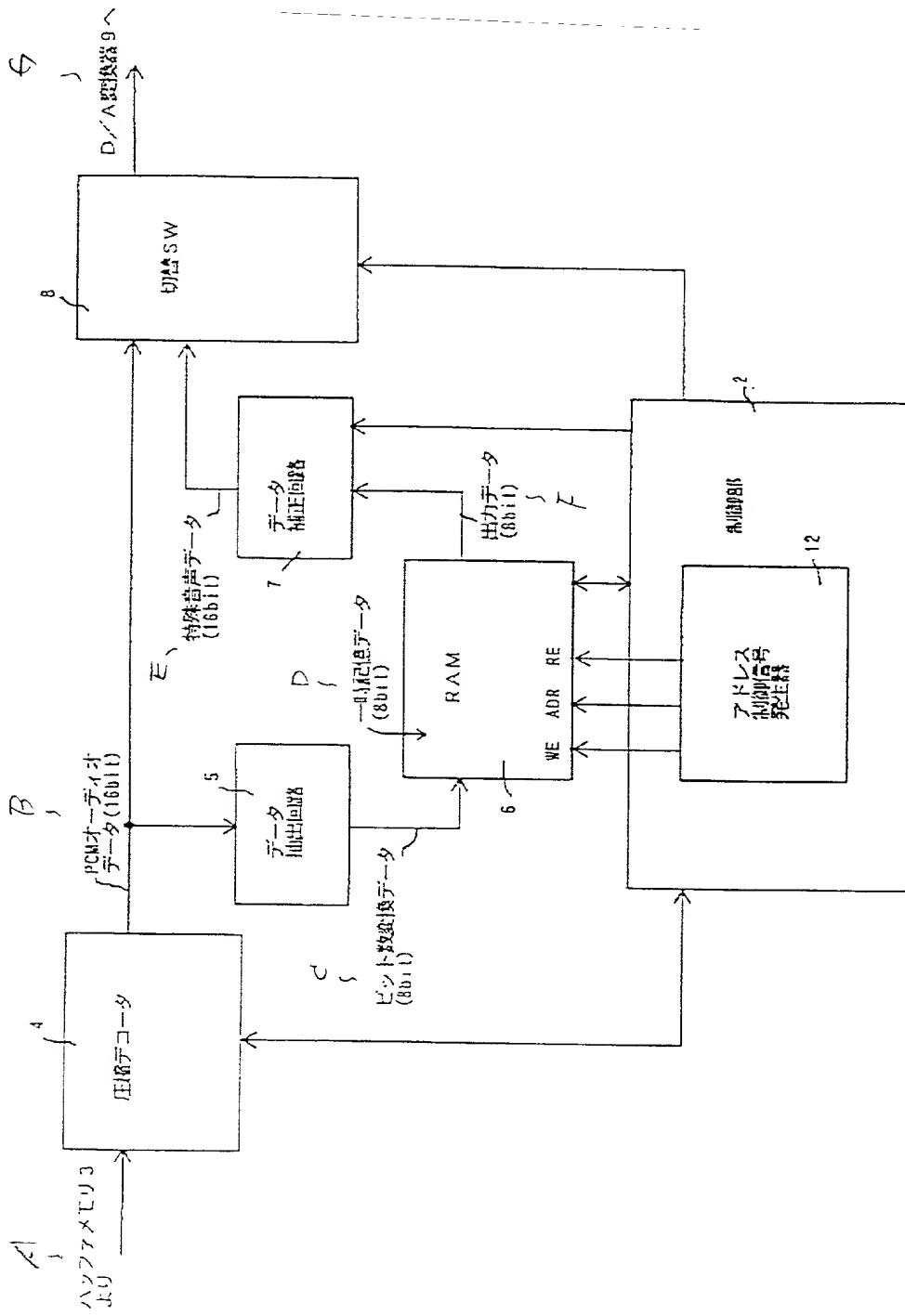
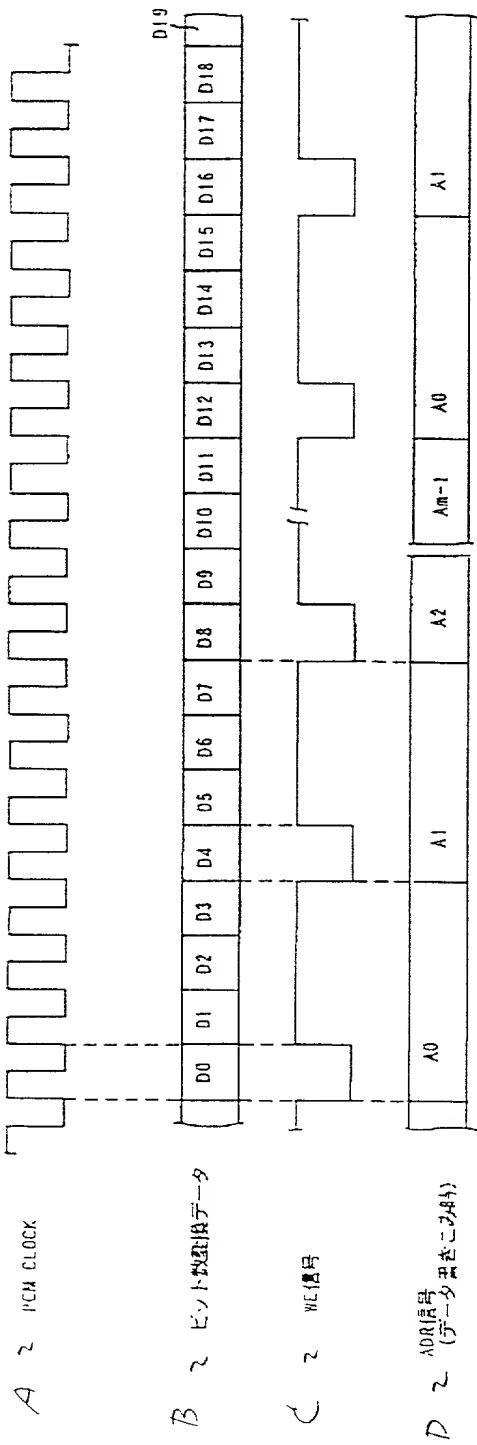


Fig. 4

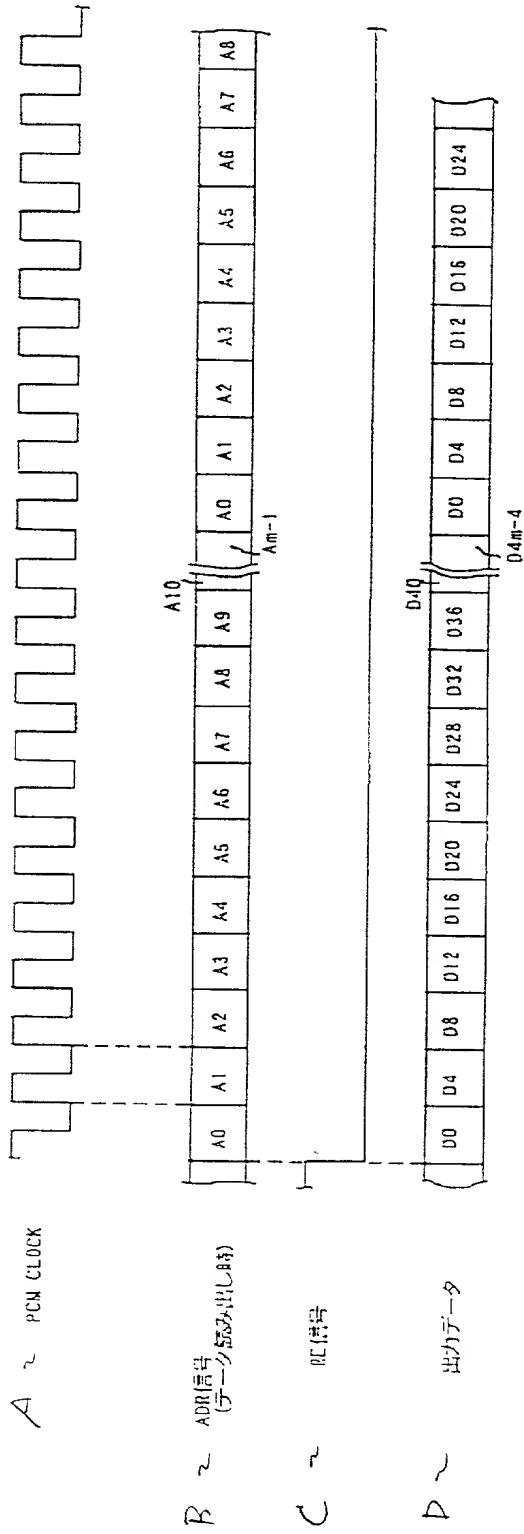
[図5]

Fig. 5

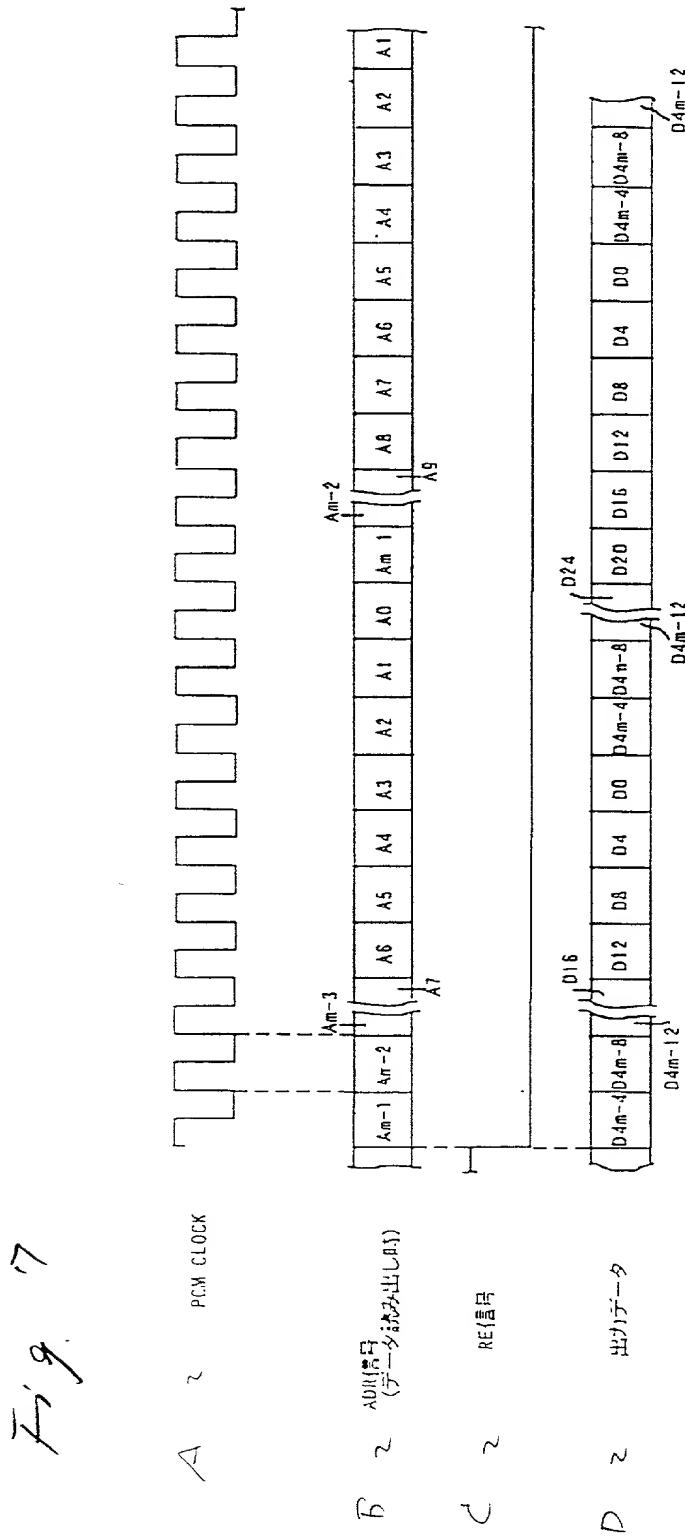


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Fig. 6

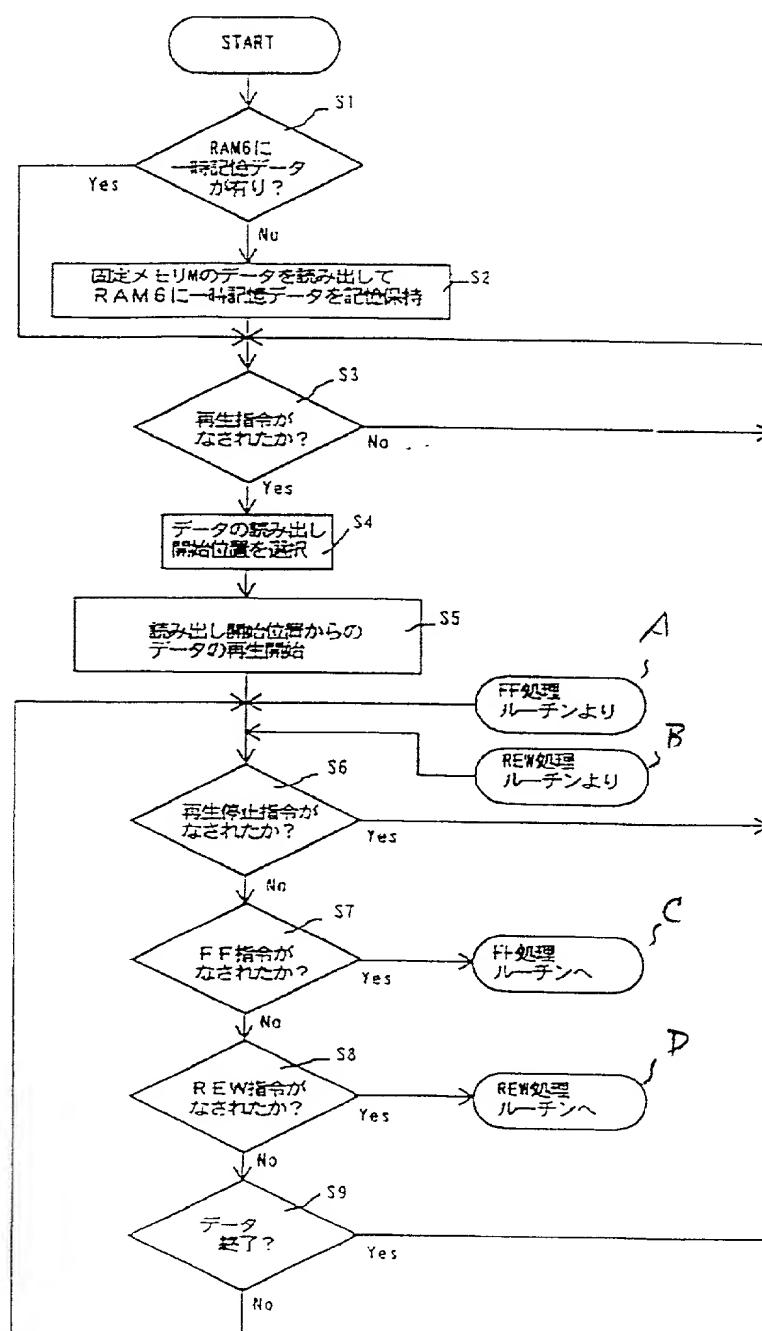


[図7]



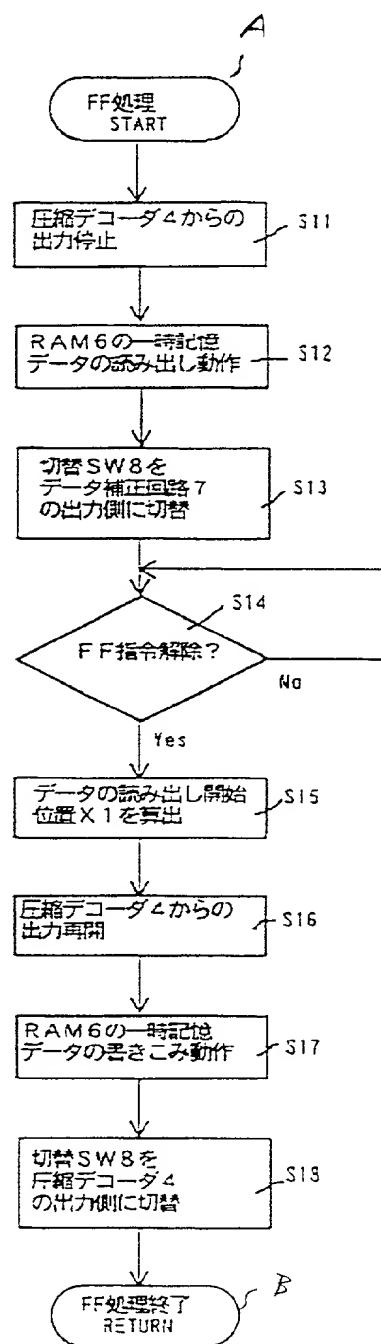
[図8]

Fig. 8



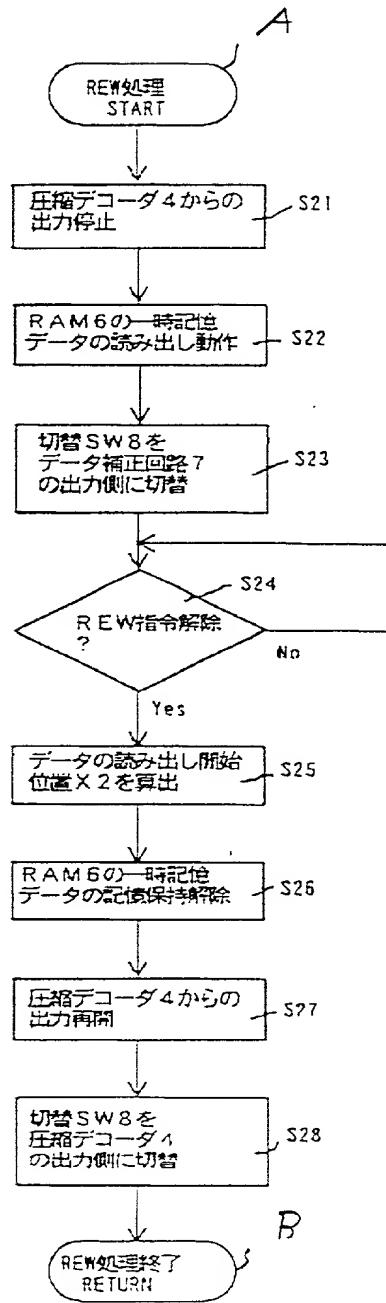
[図9]

Fig. 9



[図10]

Fig. 10



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PLAY BACK APPARATUS

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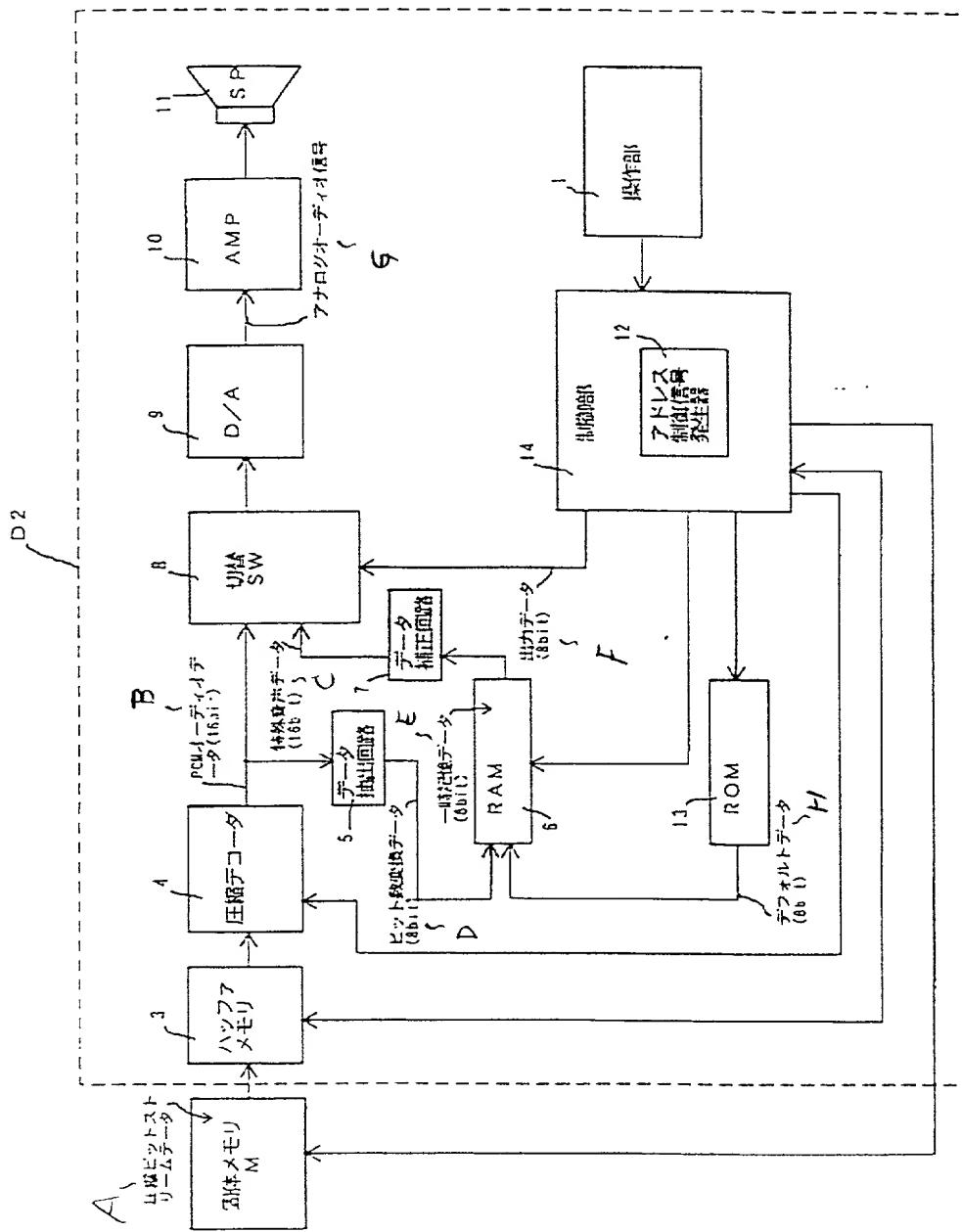
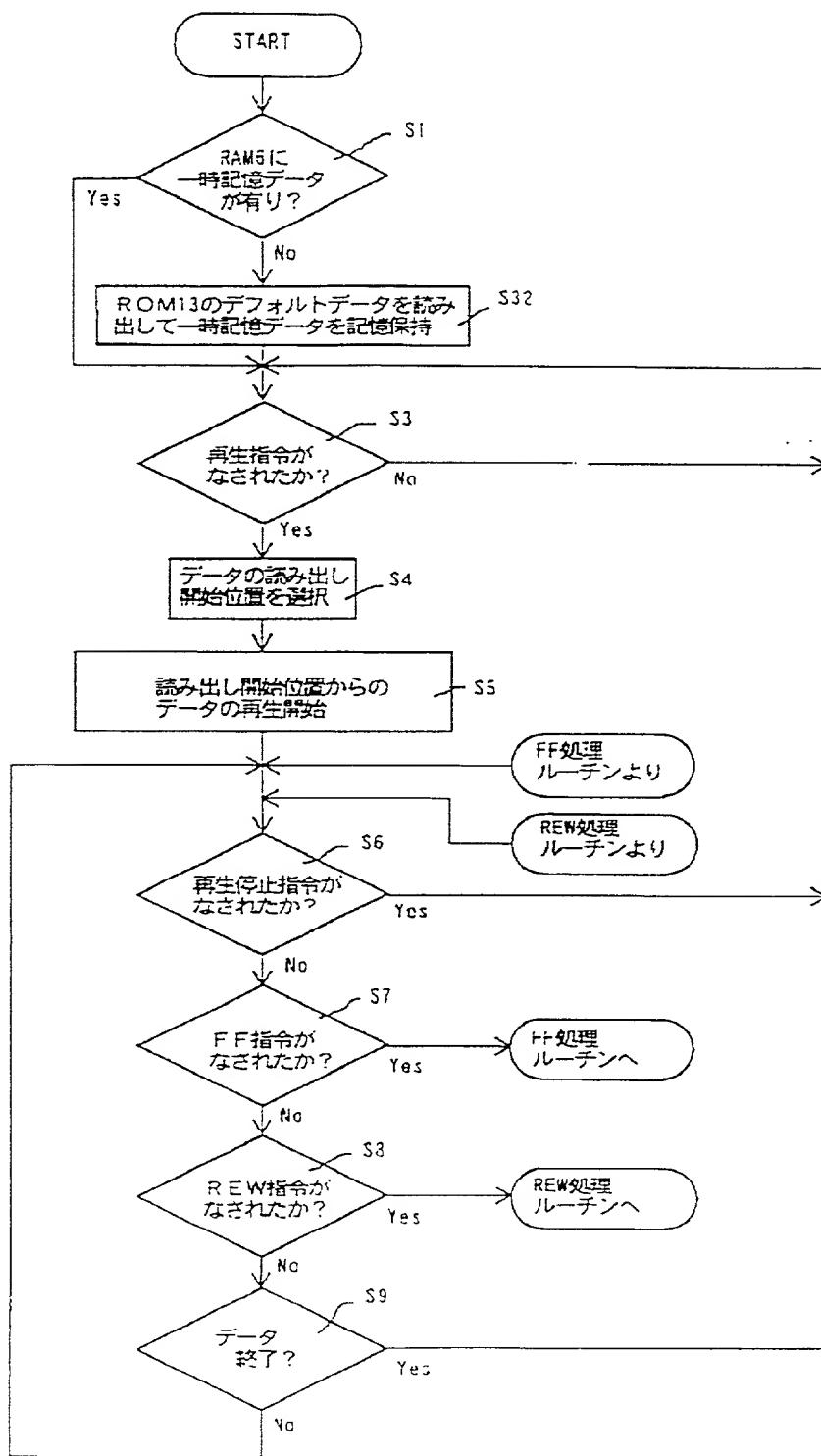


Fig. 11

[図12]

Fig. 12



【図13】

Fig. 13

